

## **OIV-MA-VI-03 Determination of the volatile acid content**

### Type II method

#### **1. Definition**

By convention, the volatile acidity of vinegar refers to the difference between the total acidity and the fixed acidity.

#### **2. Principle**

Calculation of difference between total acidity and fixed acidity, expressed in grams of acetic acid per L.

#### **3. References**

See the methods I (determination of total acidity content) and II (determination of the fixed acidity content).

#### **4. Results**

##### 4.1. Calculation

Considering:

- $A_t$  to be the total acidity content (expressed in grams of acetic acid per L of sample) and
- $A_f$  to be the fixed acidity content (expressed in grams of acetic acid per L of sample).

The volatile acidity content expressed in grams of acetic acid per L of sample is given by:

$$A_t - A_f$$

##### 4.2. Presentation

The results expressed in grams of acetic acid per liter are given to the first decimal.

# COMPENDIUM OF INTERNATIONAL METHODS OF ANALYSIS FOR VINEGARS

## Determination of the volatile acid content (Type II)

### 5. Interlaboratory validation (Hitos et al.2000)

Units: % (m/V)

Sample	r	S <sub>r</sub>	RSD <sub>r</sub>	R	S <sub>R</sub>	RSD <sub>R</sub>	RSD <sub>R</sub> (Horwitz)	Horrat Index
1 – 8.24% (m/v)	0.0445	0.016	0.19	0.1632	0.058	0.71	2.91	0.24
2 – 11.17% (m/v)	0.0438	0.016	0.14	0.1967	0.070	0.63	2.78	0.23
3 – 11.20% (m/v)	0.0595	0.021	0.19	0.2076	0.074	0.66	2.78	0.24
4 – 11.94% (m/v)	0.0473	0.017	0.14	0.1652	0.059	0.49	2.75	0.18
5 – 11.16% (m/v)	0.0518	0.019	0.17	0.3577	0.0128	1.14	2.78	0.41

### 6. Bibliography

- Anonymous, 1993, *Métodos Oficiales de Análisis*, Tomo II, Ministerio de Agricultura, Pesca y Alimentación, Madrid, Spain.
- AOAC, 1984, *Official Methods of the Ass. Offic. Agric. Chem.*, 14th edit., Arlington USA.
- Hitos P., Pons A., Martin de la Hinojosa, I, Gomez R., Hernandez A. and Muñoz J., 2000. Validation of analysis methods for total, fixed and volatile acidity of non-volatile reducing substances, copper and zinc in wine vinegars, *Green Sheet of OIV No. 115*.